参考資料

TEST DATA OF PCA1500F-48

Regulated DC Power Supply
February 22, 2021

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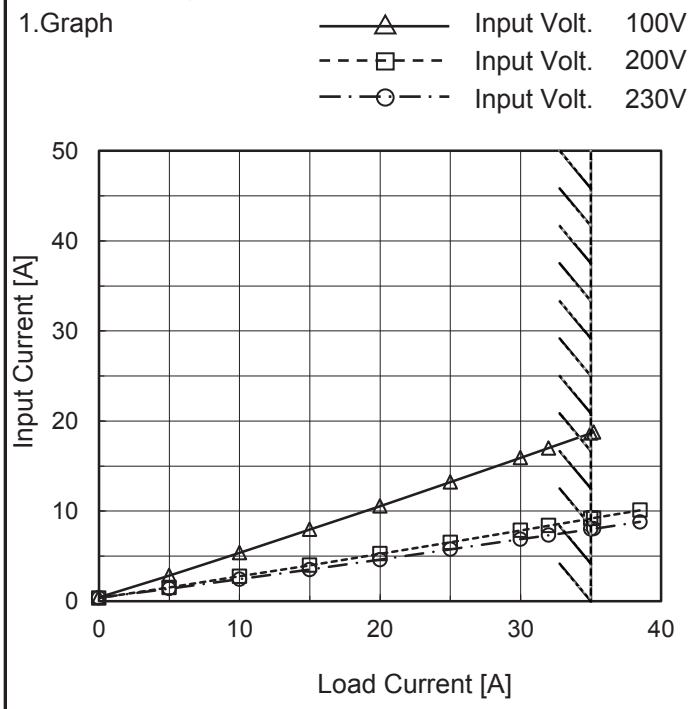
Model	PCA1500F-48
Item	Input Current (by Load Current)
Object	———————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Input Current [A]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	0.421	0.335	0.373
5.0	2.848	1.521	1.389
10.0	5.370	2.748	2.440
15.0	7.960	3.990	3.509
20.0	10.560	5.260	4.600
25.0	13.210	6.530	5.750
30.0	15.920	7.860	6.870
32.0	17.000	8.390	7.320
35.0	18.660	9.170	7.990
35.2	18.780	9.220	8.040
38.5	-	10.100	8.790

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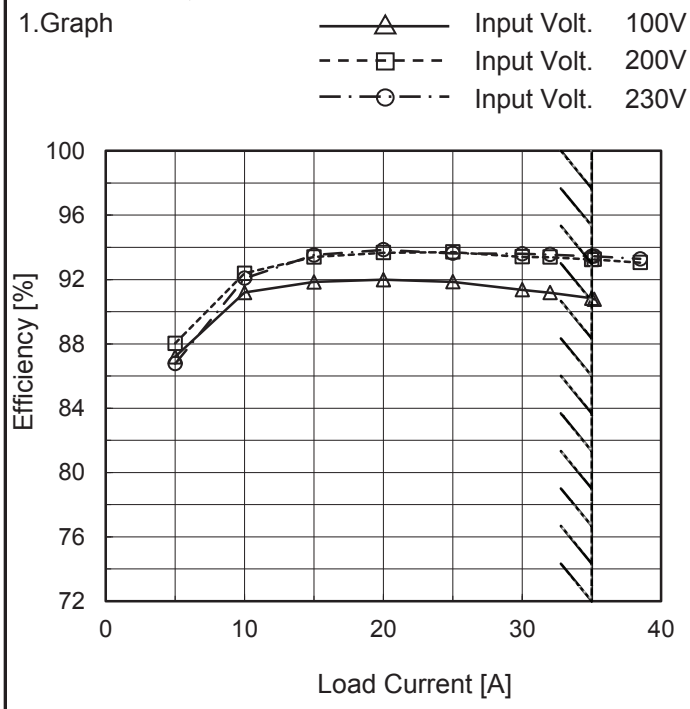
Model	PCA1500F-48
Item	Efficiency (by Load Current)
Object	———————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Efficiency [%]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
5.0	87.2	88.0	86.8
10.0	91.2	92.4	92.1
15.0	91.9	93.4	93.5
20.0	92.0	93.7	93.8
25.0	91.9	93.7	93.6
30.0	91.4	93.4	93.6
32.0	91.2	93.4	93.6
35.0	90.8	93.2	93.4
35.2	90.8	93.3	93.5
38.5	-	93.0	93.3

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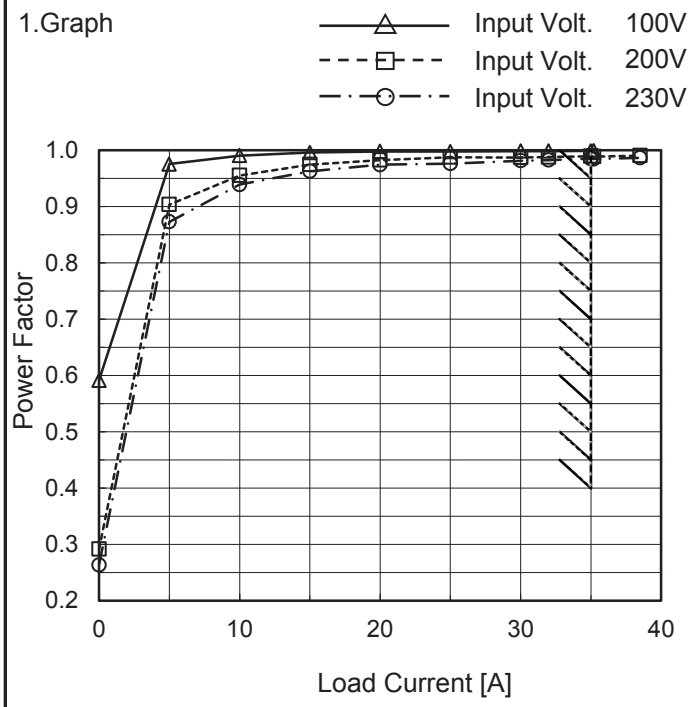
Model	PCA1500F-48
Item	Power Factor (by Load Current)
Object	————————

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Power Factor		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	0.591	0.291	0.263
5.0	0.976	0.904	0.873
10.0	0.991	0.956	0.939
15.0	0.996	0.975	0.963
20.0	0.998	0.983	0.974
25.0	0.998	0.988	0.977
30.0	0.999	0.987	0.982
32.0	0.999	0.988	0.983
35.0	0.999	0.990	0.985
35.2	0.999	0.989	0.985
38.5	-	0.991	0.987

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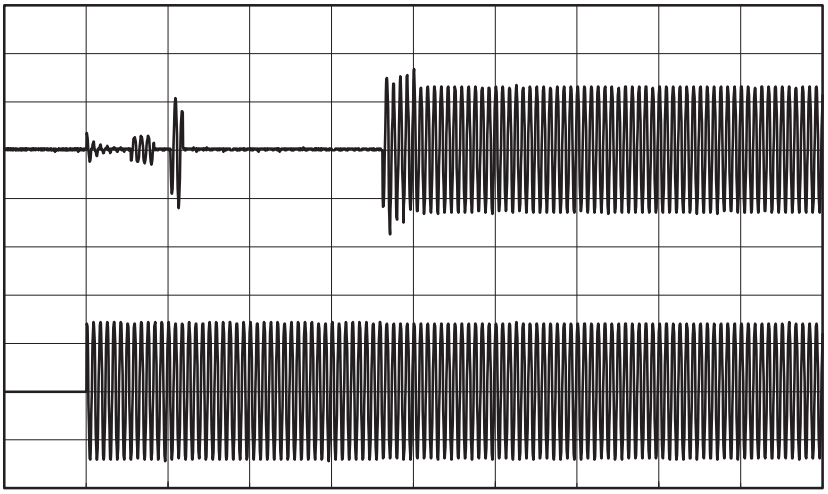
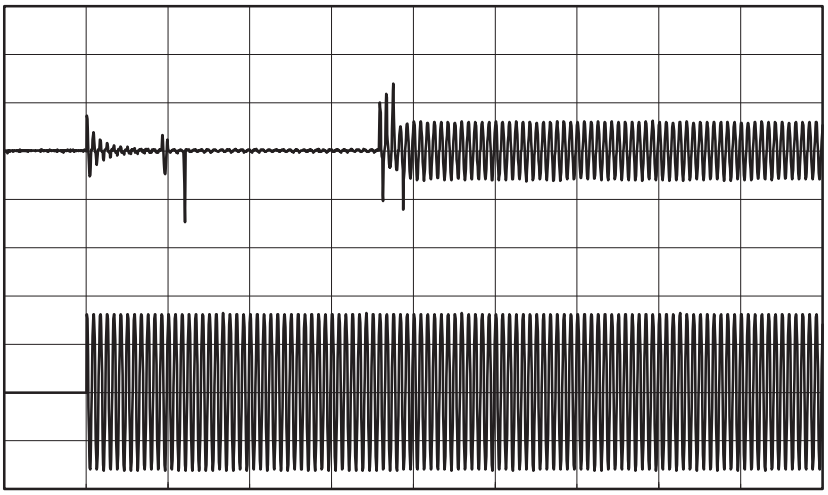
Model	PCA1500F-48	
Item	Inrush Current	Temperature 25°C Testing Circuitry Figure A
Object	————————	



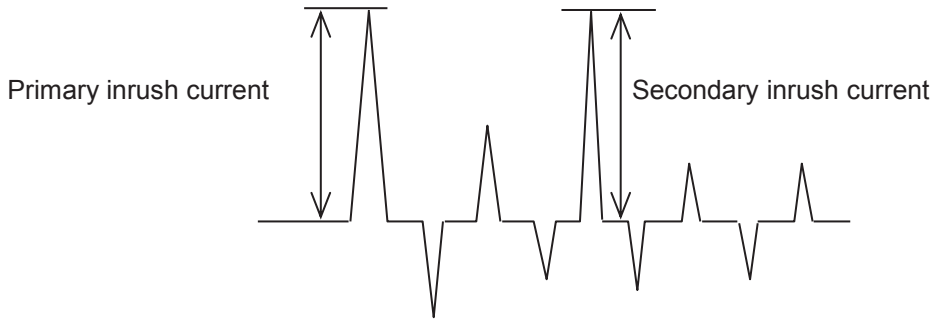
Input Voltage 100 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
7.1 A
Secondary inrush current :
34.9 A



Input Voltage 230 V
Frequency 60 Hz
Load 100 %

Primary inrush current :
14.7 A
Secondary inrush current :
29.4 A



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Model	PCA1500F-48	
Item	Leakage Current	Temperature 25°C Testing Circuitry Figure B
Object	――――――――――	

[mA]

Standards	Testing Circuitry	Measuring Method	Input Volt.			Note
			100 [V]	230 [V]	240 [V]	
DEN-AN	Figure B-1	Both phases	0.23	0.28	0.29	Operation
		One of phases	0.23	0.55	0.58	Stand by
IEC62368-1	Figure B-2	Both phases	0.15	0.27	0.29	Operation
		One of phases	0.22	0.53	0.56	Stand by
	Figure B-3	Both phases	0.22	0.30	0.32	Operation
		One of phases	0.23	0.56	0.58	Stand by
IEC60601-1	Figure B-4	Both phases	0.18	0.28	0.30	Operation
		One of phases	0.22	0.57	0.62	Stand by

Note:
The value of "One of phases" is for reference only.
The above value is the larger one of each phase of AC input.

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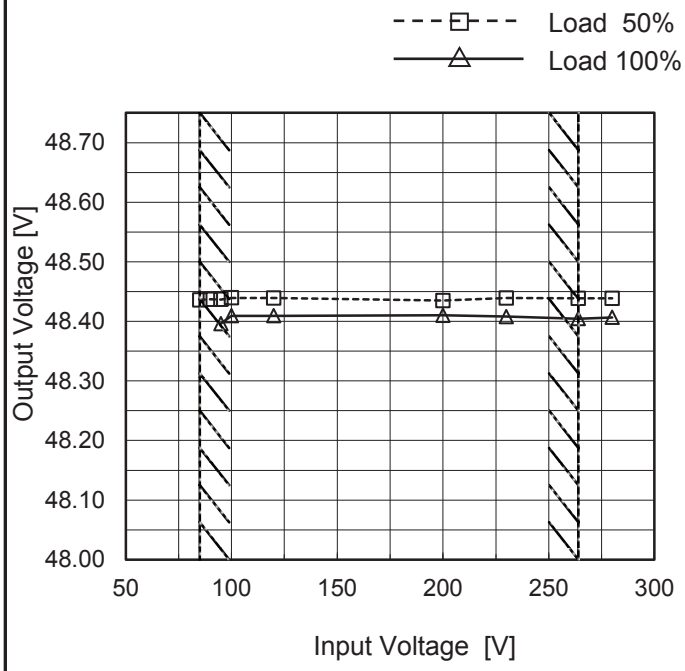
Model	PCA1500F-48
Item	Line Regulation
Object	+48V35A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated input voltage.

2.Values

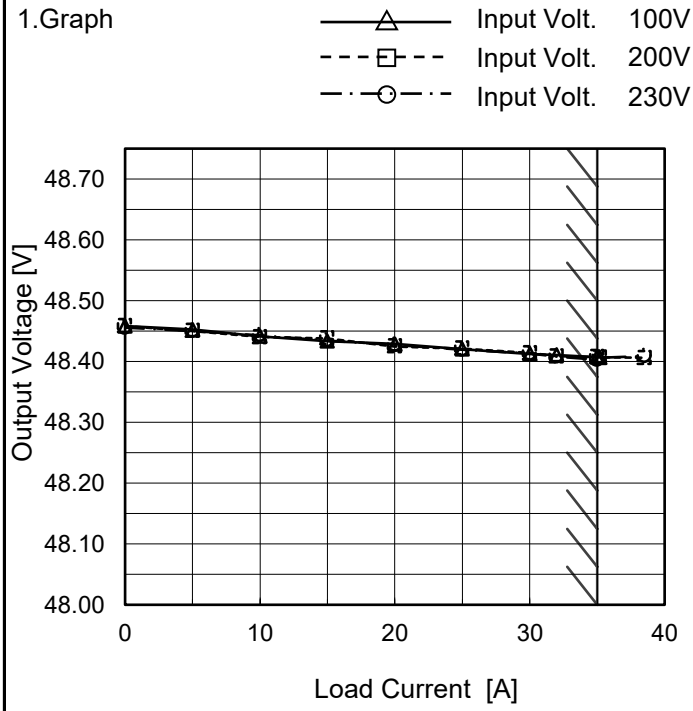
Input Voltage [V]	Output Voltage [V]	
	Load 50%	Load 100%
85	48.436	-
90	48.437	-
95	48.437	48.396
100	48.439	48.409
120	48.439	48.409
200	48.435	48.410
230	48.439	48.408
264	48.439	48.404
280	48.439	48.407

COSEL

Model	PCA1500F-48
Item	Load Regulation
Object	+48V35A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

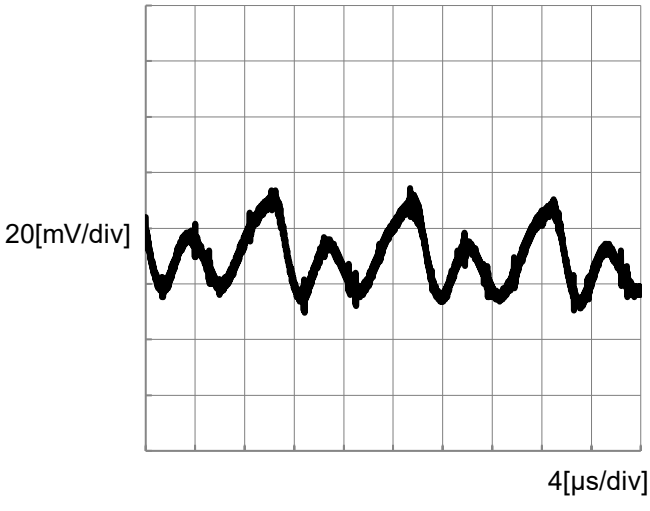
Load Current [A]	Output Voltage [V]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	48.458	48.458	48.456
5.0	48.453	48.450	48.450
10.0	48.442	48.440	48.443
15.0	48.433	48.438	48.435
20.0	48.429	48.425	48.428
25.0	48.421	48.421	48.420
30.0	48.412	48.414	48.413
32.0	48.411	48.409	48.408
35.0	48.408	48.407	48.403
35.2	48.407	48.407	48.406
38.5	--	48.406	48.409

Item	Ripple-Noise
Object	+48V35A

Temperature 25°C
Testing Circuitry Figure C

1.Graph

Input Voltage 200V
Load 100%



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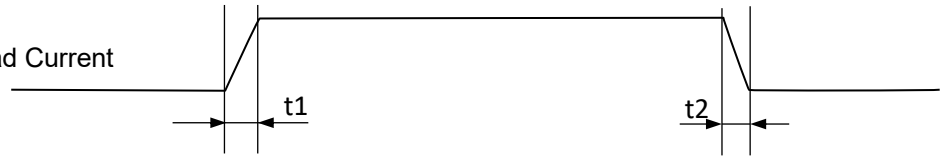
Model	PCA1500F-48
Item	Dynamic Load Response
Object	+48V35A

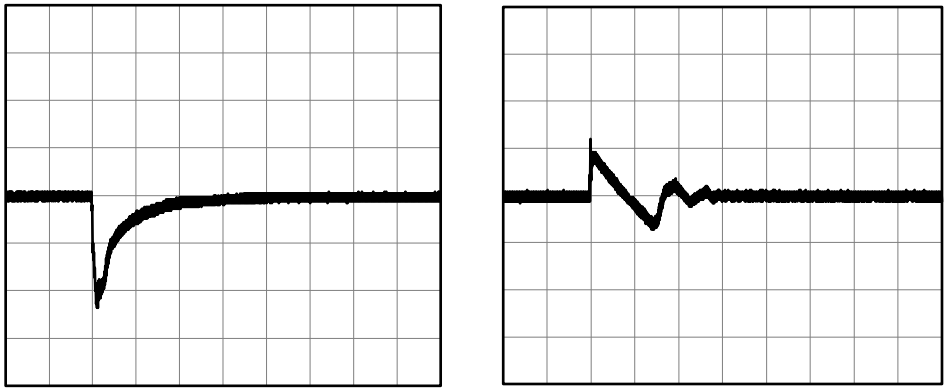
Temperature 25°C
Testing Circuitry Figure A

Input Volt. 200 V
Cycle 1000 ms

Response. t1=t2=50μs. Typ



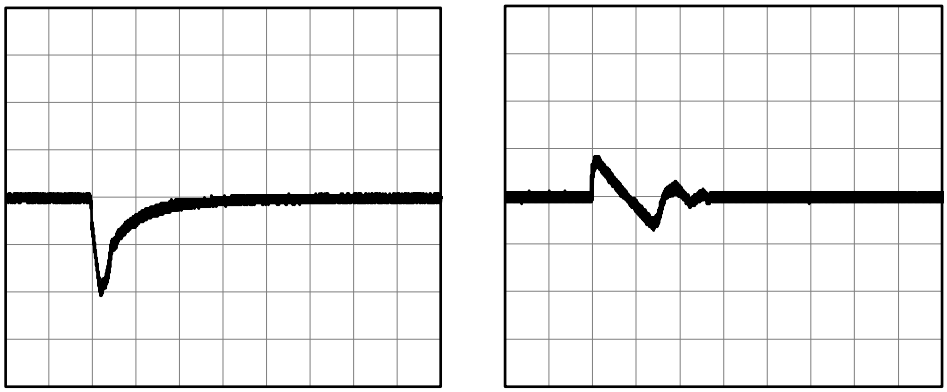
Load 0%(0A) ←→
Load 100%(35A)



2[V/div]

2[ms/div] 20[ms/div]

Load 0%(0A) ←→
Load 50%(17.5A)

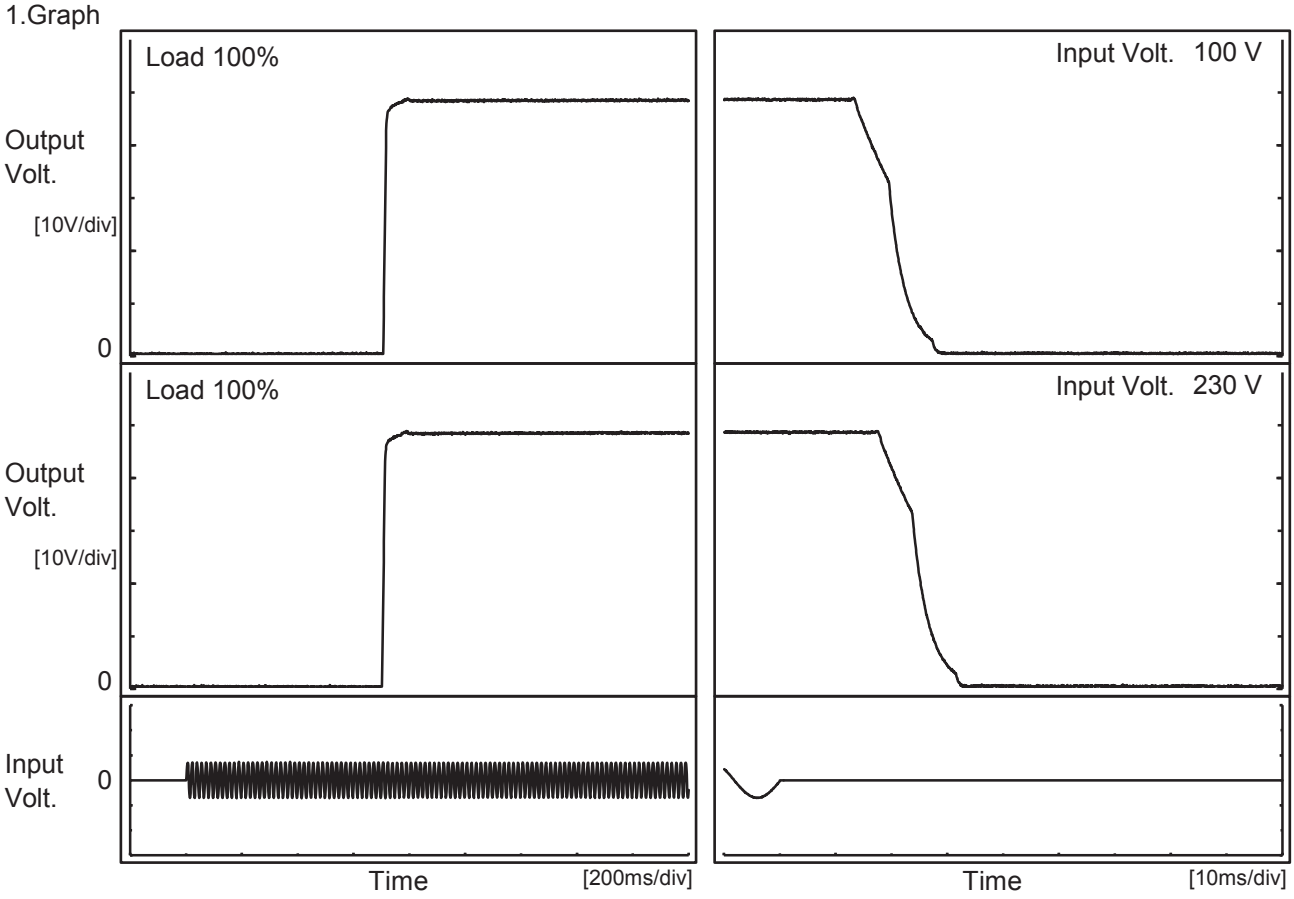


2[V/div]

2[ms/div] 20[ms/div]

Model	PCA1500F-48	
Item	Rise and Fall Time	Temperature 25°C Testing Circuitry Figure A
Object	+48V35A	

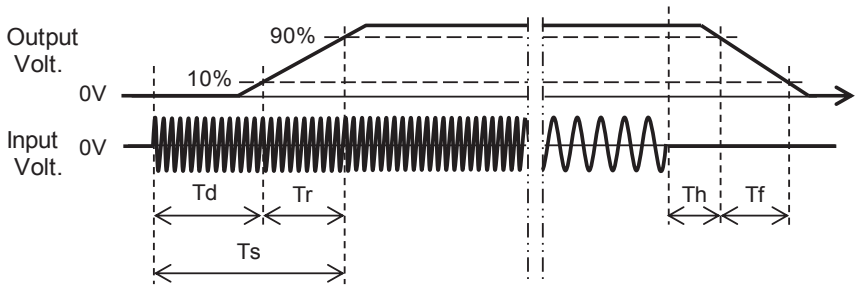
1.Graph



2.Values

[ms]

Input Volt. \ Time	Td	Tr	Ts	Th	Tf
100 V	708.0	10.0	718.0	15.1	10.3
230 V	704.0	10.0	714.0	19.4	10.1

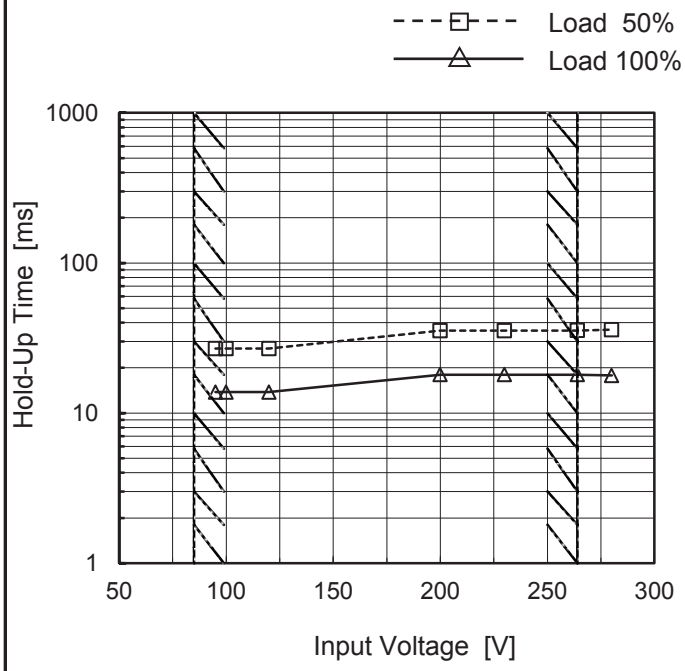


COSEL

Model	PCA1500F-48
Item	Hold-Up Time
Object	+48V35A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



This duration covers from Shut-off of input voltage to the moment when output voltage descends to the rated range of voltage accuracy.
Note: Slanted line shows the range of the rated input voltage.

2.Values

Input Voltage [V]	Hold-Up Time [ms]	
	Load 50%	Load 100%
85	27	-
90	27	-
95	27	14
100	27	14
120	27	14
200	35	18
230	35	18
264	36	18
280	36	18

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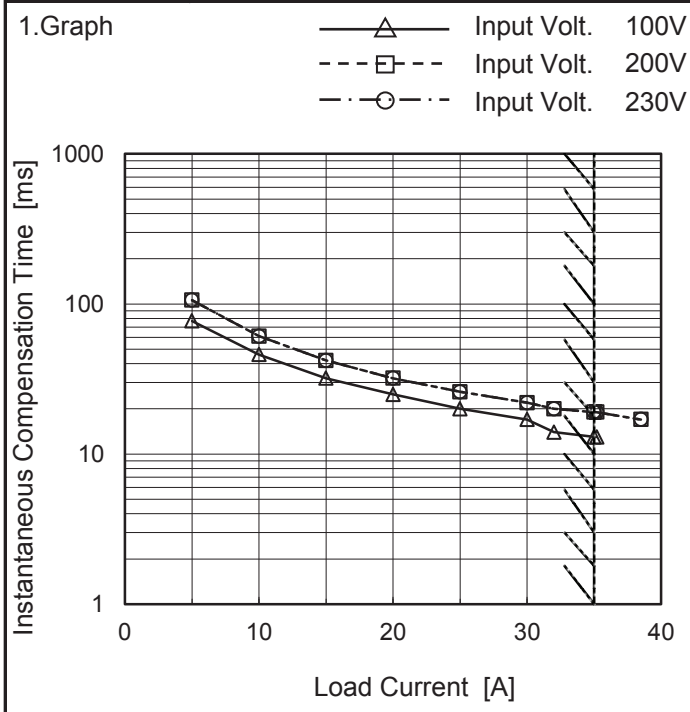
Model	PCA1500F-48
Item	Instantaneous Interruption Compensation
Object	+48V35A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

Load Current [A]	Time [ms]		
	Input Volt. 100[V]	Input Volt. 200[V]	Input Volt. 230[V]
0.0	-	-	-
5.0	77	106	106
10.0	46	61	61
15.0	32	42	42
20.0	25	32	32
25.0	20	26	26
30.0	17	22	22
32.0	14	20	20
35.0	13	19	19
35.2	13	19	19
38.5	-	17	17

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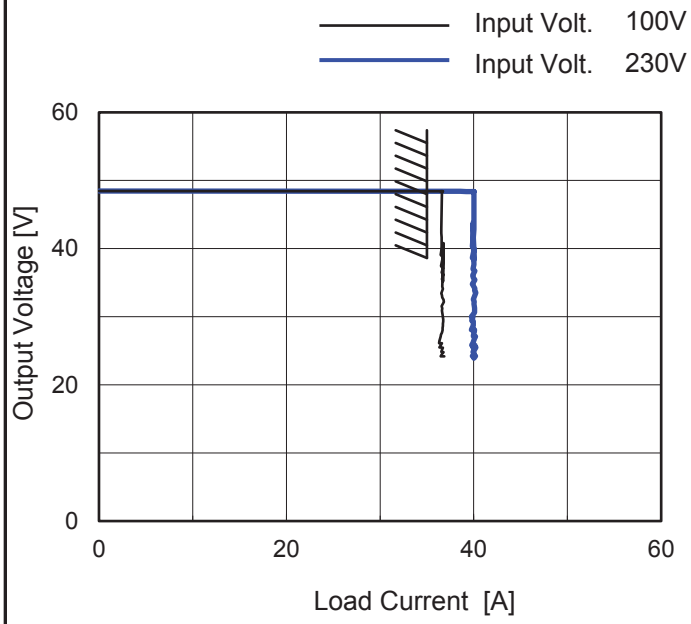
Model	PCA1500F-48
Item	Overcurrent Protection
Object	+48V35A

Temperature 25°C
Testing Circuitry Figure A

1.Graph



Note: Slanted line shows the range of the rated load current.

2.Values

Output Voltage [V]	Load Current [A]	
	Input Volt. 100[V]	Input Volt. 230[V]
45.6	36.52	39.91
43.2	40.56	40.00
38.4	36.69	39.83
33.6	36.72	40.09
28.8	36.69	39.96
24.0	36.85	40.19
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-
--	-	-

Model	PCA1500F-48
Item	Ambient Temperature Drift
Object	+48V35A

Testing Circuitry Figure A

1.Values

Load 100%

Ambient Temperature[℃]	Output Voltage [V]		
	Input Volt. 100V	Input Volt. 200V	Input Volt. 230V
-20	48.471	48.472	48.471
25	48.432	48.433	48.433
50	48.374	48.374	48.373

Item	Minimum Input Voltage for Regulated Output Voltage
Object	+48V35A

Testing Circuitry Figure A

1.Values

Ambient Temperature[℃]	Input Voltage [V]	
	Load 50%	Load 100%
-20	74	92
25	74	92
50	74	90

Item	Overvoltage Protection
Object	+48V35A

Testing Circuitry Figure A

1.Values

Load 0%

Ambient Temperature[℃]	Operating Point [V]	
	Input Volt. 100V	Input Volt. 230V
-20	61.67	61.67
25	61.67	61.67
50	61.61	61.67

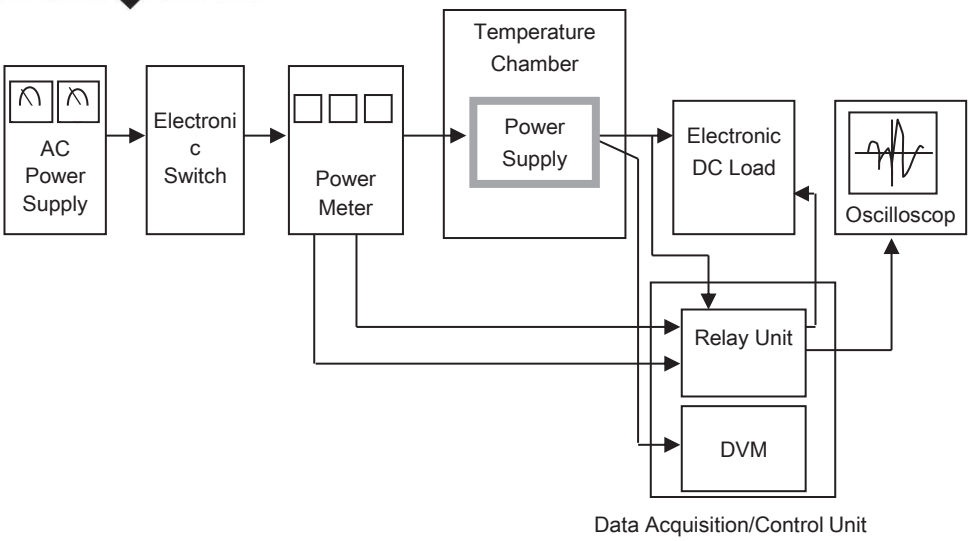


Figure A

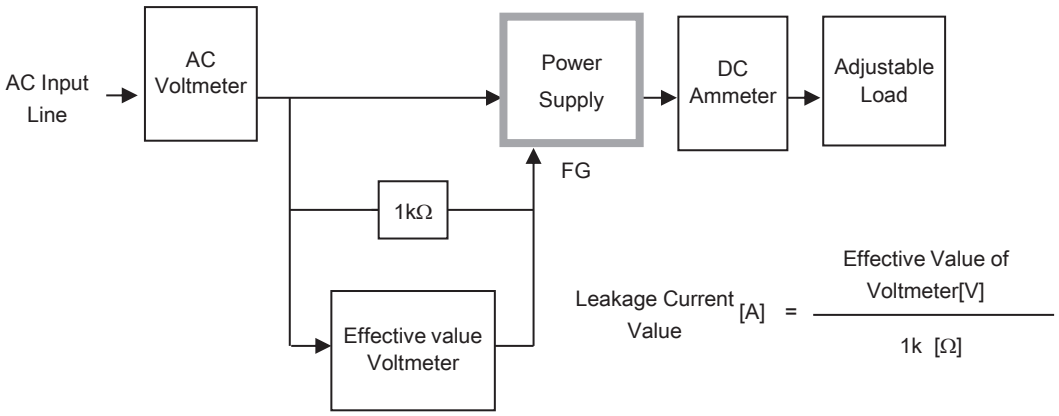


Figure B-1 (DEN-AN)

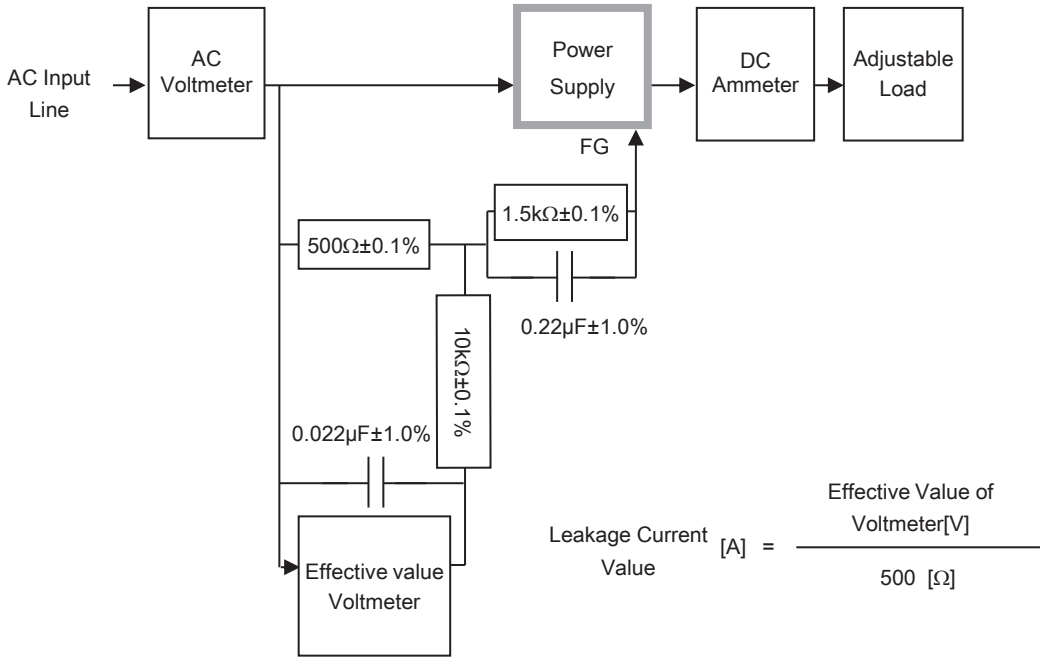


Figure B-2 (IEC62368-1 refer to IEC60990 Fig.4)

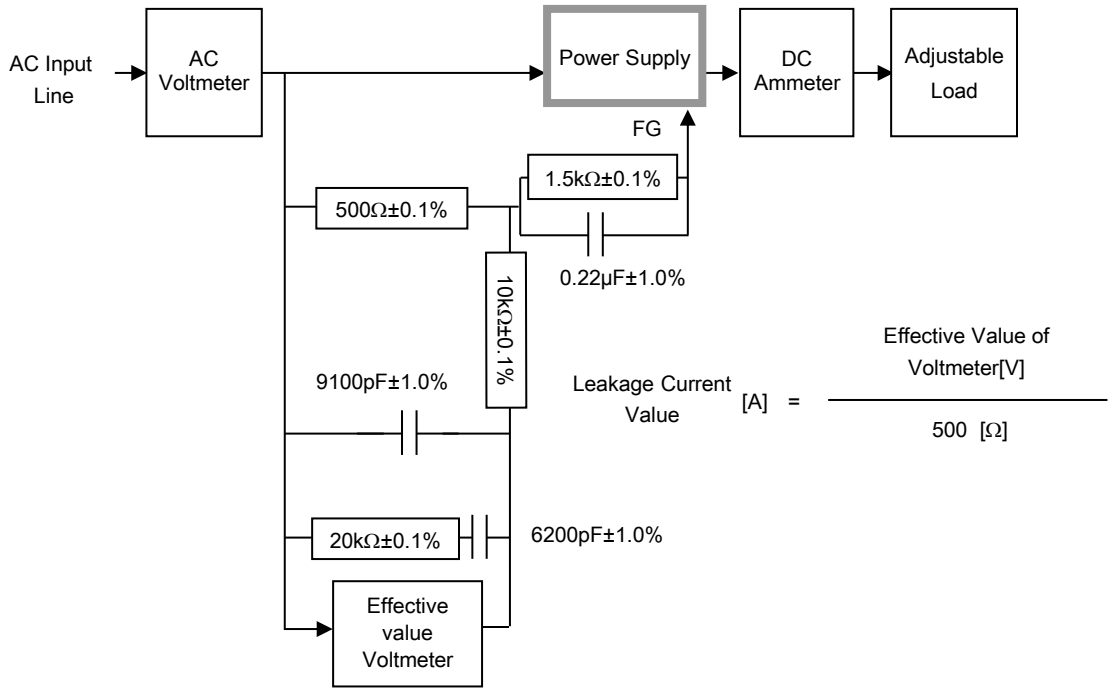


Figure B-3 (IEC62368-1 refer to IEC60990 Fig.5)

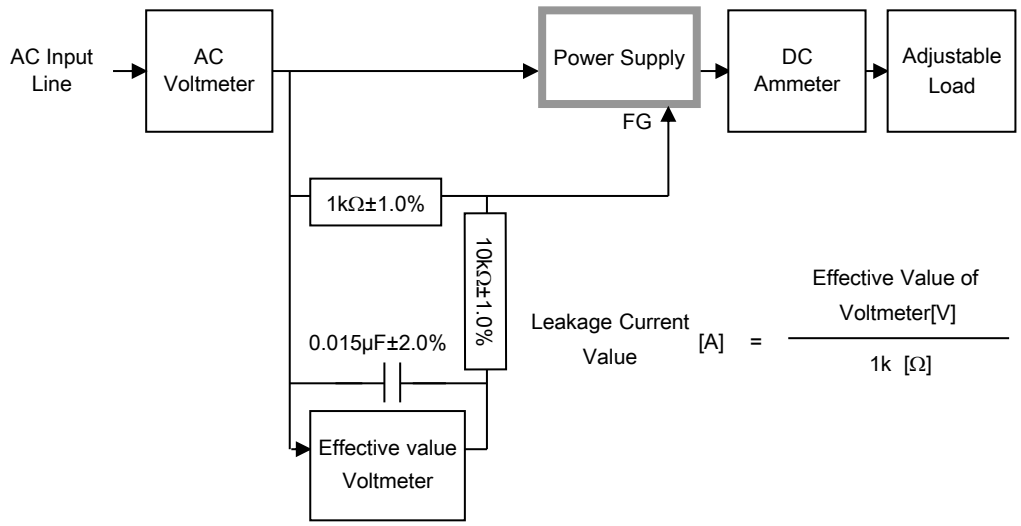


Figure B-4 (IEC60601-1)

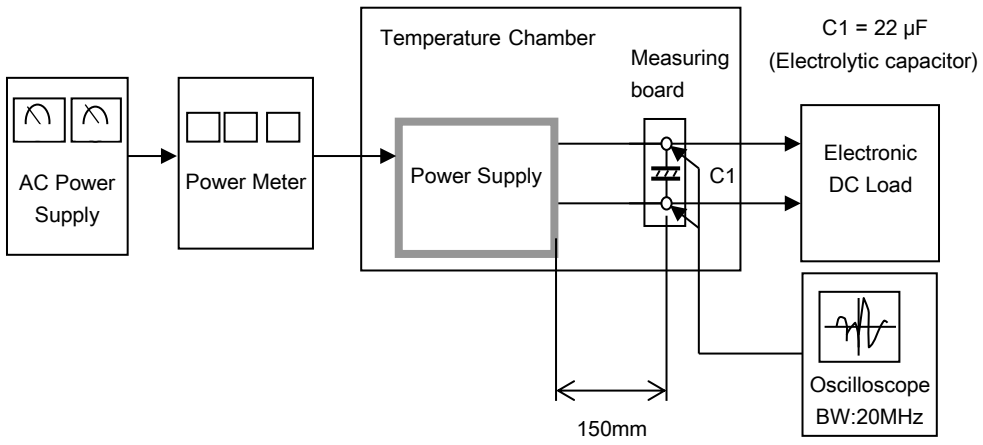


Figure C